

The Winston Churchill Memorial Trust of Australia

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**Primary health care research (networks) in the United
Kingdom**

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From Winston Churchill:

‘an optimist sees the opportunity in every difficulty’.

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- The various Academic Departments, research networks, and other organizations that welcomed me throughout the United Kingdom. Their willingness to share their work and experiences was instrumental in making this study tour the success that it was.

- My family, Peter, Maria, Nicholas and Natalie and doggies, Doug and Molly. I am grateful for their love; support and encouragement through the whole experience from the original application through the uncertainty of whether this trip was possible due to personal health problems and major surgery, to our reunion and welcome home in Australia. I am indebted to Peter for his commitment to the cause, sale of the pharmacy and willingness to support and accompany me on this enterprise; it would not have been such fun without him. I am grateful to our children, Maria, Nicholas, and Natalie who held the fort at home, paid the bills and dealt with the trials of a border collie who could not understand or accept that his pet humans were missing.

3 Abbreviations

ACTs	Acute Care Trusts
BRG	Battersea Research Group
DofH	Department of Health
DRP/s	Designated Research Practice/s
ELENoR	East London and Essex Network of Researchers
EyeNet	Optometry Network
ForthNet	Forth Valley Primary Care Research Network
GP/s	General practitioner/s
GPRF	General Practitioner Research Framework
HertNeT	Hertfordshire Primary Care Research Network
HighReN	Highlands and Islands Primary Care Research Network
MRC	Medical Research Council
NHS	National Health Service
NoCTeN	North Central Thames Primary Care Research Network
NRPCC	National Primary Care Research Centre
PCGs	Primary Care Groups
PCRED	Primary Care Research Evaluation and Development
PCT/s	Primary Care Trust/s
PHC	Primary Health Care
PHCRN and PCRN	Primary Health Care Research Network
PHReNet	The Primary Health Care Research Network
PRIMIS	Primary Care Information Service
RCGP	Royal College of General Practitioners
R&D	Research and Development
SSPC	Scottish School of Primary Care
StarNet	South Thames Research Network
WeLReN	West London Research Network
WestNet	West of Scotland Research Network
WONCA	World Organization of Family Care Doctors
WReN	Wessex Research Network

4 Executive Summary

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Fellowship objective

The aim of my fellowship program was to visit Primary Health Care Research Networks and University Departments of General Practice and Primary Health Care in England and Scotland. I was primarily interested in finding out about opportunities and threats to the development of Primary Care Research Networks in the UK and in researching the major issues for these organizations to inform the development of our own research network in South Western Sydney, PHReNet.

Fellowship highlights

There were many highlights in this opportunity to study in the UK. The opportunity to combine travel, study and some very special tourist opportunities was invaluable. I had no idea that the opportunity to meet with colleagues in other places could be so positive. I will value the connections that I made and hope to capitalise on the opportunities to develop some collaborative research in other parts of the world.

One special highlight was my unexpected visit to the Donkey Sanctuary in Sidmouth. This world famous sanctuary was founded by Dr Elizabeth Svendsen in 1969 to rescue and care for donkeys. Donkeys have been replaced by motor vehicles and many are neglected and forgotten. This non profit organization was established in the interests of donkeys and works to increase understanding of the biology of this unique animal.

Primary Health Care Research Networks

Primary Health Care Research Networks have flourished in the UK in recent years, vindication of the recommendations of the Culyer report in 1994 and the Mant report in 1997. The working groups that prepared these reports and the recommendations that they developed in their reports were instrumental in initiating interest in research in the primary health care setting. This was enabled and supported by identification of funding to nurture and encourage the development of research activities. The recommendations also began to change the health service culture from one of not valuing research that did not emanate from a teaching hospital setting to recognition of the importance of research findings in the setting where they will be used.

There are now more than 40 networks that are members of the UK Federation of Research Networks. The Federation was established to coordinate the development of research networks and to support the development of networks at a national level. This report is presented as a discussion of the issues that influence their development.

The report discusses the models of PCRNs that have emerged and the philosophies that have guided their development. 'Top down' and 'bottom up' models are described. The change in focus to a more 'whole' system model of networks is discussed. 'Whole' system approaches enable a variety of research activity that enables practitioners to become involved in research in a way that values their skills and interests. The report discusses the different organisational structures that have been developed to support the different philosophies. PCRNs have resulted from a period of enthusiasm and activity that was enabled by the earlier funding. The different structures are attributed to contextual factors, organizations strategies in relation to partnerships to support the networks and the interpretation of the core goals and activities of the PCRNs. As the Health System in the UK is changed and new organizations to deliver care emerge it is to be hoped that the lessons learned in recent years from early networks will be built on and opportunities for partnerships between PCTs and academic departments continue to be recognised.

This information will be used to inform the development of the Primary Health Care Research Capacity Building Program at the University of NSW and to contribute to debate about the development of research networks in Australia. The Primary Health Care Research Network (PHReNet) is the first activity of this university as a part of this program and it is beginning to engage a core group of primary health care practitioners in research related activity.

In summary, PCRNs in the UK have begun well. There is a need to build their principles into the ongoing development of primary care organizations in the UK and to recognise the value of partnerships between health service organizations, Universities and practitioners in working together to develop, support and disseminate research activities and findings.

5 Professional Program

Southampton

8th – 9th April

WReN: Wessex Primary Care Research Network, University of Southampton
Dr Helen Smith, Director, Ms Martine Cross, Dr Peter White, Dr Michael Moore.
Presentation: PHReNet: a general practice research network in South Western Sydney, Australia

London

9th – 11th April

Department of Primary Care and Population Health Sciences, Guys and Royal Free Hospital, Hampstead.

NoCTeN: North Central London Primary Care Research Network,
Ms Elaine Ward, Dr Irwin Nazareth, Ms Philomena Phillips, Dr Mirrillee Pearl, Ms Tracy Mason

Regional meeting of London-Based Research Networks 10th April

Presentation: A general practice and primary health care research network in South Western Sydney, Australia

14th April

National Asthma Campaign

Visits to: Dr Jack Barnes, Ms Marsha Williams and Mr Matthew Hallsworth

15th April

Battersea Research Group (BRG)

16th April

WeLReN: West London Research Network

Department of Primary Health Care and General Practice, Imperial College of Science, Technology and Medicine, London

Mr Ricky Bannersee, Ms Sylvia Westrup, Ms Kate Woodhouse

Presentation: Research capacity in general practice and primary care in New South Wales, Australia

18th April

Brent and Harrow PCT, Mr Ricky Bannersee

Hatfield

17th April

Centre for Research in Primary and Community Care, University of Hertfordshire

HertNet: Hertfordshire Research Network

Sue Hall, Dr Karen Friedli, Dr Mike Kirby

Warwick

30th April

National Respiratory Training Centre

Ms Monica Fletcher, Sue Rivers, Trudie Loveridge

Coventry

1st - 2nd May

Centre for Primary Health Care Studies, University of Warwick, Coventry - Professor Jeremy Dale

WARMNET: Warwick-West Midlands Primary Care Research Network - Dr Frances Griffiths, Director

Warwick Diabetes Care – Professor Jeremy Dale, Director, Dr Jackie Sturt

Respiratory Research Network – Dr Carol Hawley

Dr Ann Adams, Senior Research Fellow

Professor Geoff Meads, Visiting professor, City University, London

- Nottingham** 3rd - 7th May
 Department of General Practice, University of Nottingham
 PRIMIS: Primary Care Information Services, Ms Sheila Teasdale, Director
 Trent Focus, Mrs Beverley Hancock
- Manchester** 8th - 10th May
 National Primary Care Research and Development Centre, University of Manchester
 Professors Martin Roland, Bonnie Sibbald, John Howie and Dr Deborah Baker
Presentation: Chronic pain among general practice patients
- Edinburgh** 14th –18th May
 Department of General Practice, University of Edinburgh,
 Head of Department, Professor David Weller
 Lothian Research network, Dr Lucy McCloghan
 Scottish School of Primary Care, Dr Sally Wyke
Presentation: Research capacity in general practice and primary care in New South Wales, Australia
- Aberdeen** 20th - 30th May
 Department of General Practice and Primary Care, University of Aberdeen
 Director of Research, Professor Phil Hannaford
 Chronic Pain Group, Dr Blair Smith and Dr Allison Elliot
 Epidemiologist, Dept Public Health, Dr Cairns Smith 21st May
 Director R&D, PCT, Mr Adam Coldwells 22nd May
 Respiratory Group, Professor David Price
 Clinical informatics, Dr Bob Milne
 Pharmacy Research Network, Professor Christine Bond, Dr Mags Watson
 Dr Leisl Osman, Research Fellow, Department of Medicine and Therapeutics
 Attendance at the Department's Research Away Day, 28th May
 Department research seminar: Roma Mitchell Sarah Smith: Data collection in General practice: desirable? Ethical? Achievable?
Presentation: Chronic pain among general practice patients: results of a patient survey
- Inverness** 31st May
 HighReN: Highlands and Islands Research Network (Dr David Dorran)
- Glasgow** 4th – 5th June
 Department of General Practice, University of Glasgow, Prof Graham Watt, Head
 Dr Liz Ramsey and Una McLead
 WestNet: West of Scotland Research Network, Ms Bridie Fitzpatrick
Presentation: PHReNet: a primary health care research network for South Western Sydney.
- London** 9th – 14th June
 WONCA, European Regional Meeting.
Presentation: PHReNet: A general practice research network in South Western Sydney, Australia
- 10th June
 Royal College of General Practitioners (Professor Amanda Howe, Ms Fennia Green)
- 11th June
 StaRNet: South Thames Research Network (Dr Darryl Goodwin)
- 12th June
 Medical Research Council, General Practice Research Framework. (Ms Jeannett Martin).

6 Background

6.1 Introduction

In Australia, the majority of health care is delivered in the primary health care setting, most particularly in general practice. However, in the past, limited research and evaluation has occurred in this setting and the transfer of research findings from specialist settings to the primary care arena has been slow. The Commonwealth Department of Health and Aged Care have recognised the need to develop and foster research in this setting and are addressing this through the Primary Care Research, Evaluation and Development Strategy 2000-2004 (PCRED). In addition to other activities, the three University Departments of General Practice and a Department of Rural Health in New South Wales have received funding to develop research activities in New South Wales. These activities aim to develop a capacity in primary health care to develop and conduct research and use the results of research and evaluation to inform their practice. The approach involves the statewide co-ordination of activity with regional implementation. The University of New South Wales is working in four health regions: South Western Sydney, South Eastern Sydney, the Illawarra and the Greater Murray.

6.2 PHReNet

The Primary Health Care Research Network (PHReNet) is the first activity undertaken by the University of New South Wales as a part of this program. PHReNet is a structure to support research, conduct evaluation and facilitate collaborative activities in the primary health care setting. It is drawing its membership from the University, general practitioners, general practice registrars, Divisions of General Practice, community health services and other organizations providing community-based primary health services and other interested health care professionals. The underlying philosophy of the network is one of collaboration between the members to develop research skills supported by research expertise within the University. Activities are being developed to provide research training opportunities and experience to primary health care practitioners and encourage participation in a range of projects that are linked to the interests of practitioners and the health needs of the community.

6.3 Research networks in the UK

A small number of primary health care practitioners, largely through academic institutions, had been involved in networking activities in the primary care setting since the early 1990s. These networks have blossomed in recent years due to changes in policy that identified Research and Development funding to support them. There are now over 40 networks in the UK that are developing high quality research in general practice or working to encourage practitioners to become interested in research related activities. The networks have developed from very different foundations and hence vary widely in structure and consistency. They undertake and support a range of research activities to increase both the quantity and quality of research in this setting and the number of primary care practitioners who have at least some research training.

Despite their differing developmental structures, research networks have many common issues in relation to their future development and are restating and redefining their role in an environment of major shifts in health policy and delivery of primary

health care. The most important of these is the shift from Primary Care Groups (PCGs) to Primary Care Trusts (PCTs). These structural changes are resulting in the development of new infrastructures and the devolution of many activities from the National Health Service (NHS) to regional PCTs that have responsibility for delivery of NHS policy. Networks are negotiating with the new organizations to identify partnerships and funding opportunities.

7 Aim of program

The primary aim of my Churchill Fellowship program was to investigate the structure and development of Primary Health Care Research Networks (PCRNs) in England and Scotland.

The objectives of my review of PCRNs was to gather information on the development of primary care research, models and structure of networks, activities being undertaken, evaluation of these networks and to understand issues relating to their future development.

A secondary aim was to develop an understanding of the type of primary health care research that was being undertaken in these countries and identify collaborative potential partners.

8 Methods

This qualitative study was undertaken in England and Scotland. A semi-structured interview schedule was used to inform my discussions (Attachment 1). This sought information on issues relating to the development, structure, functioning and issues for each network.

8.1 Selection of organizations

In developing this program, I used the following sources to identify individuals, networks and organizations to visit:

- Personal knowledge of research groups and of research networks with similar interests
- Consultation with colleagues
- The Internet.

This enabled me to identify a selection of PCRNs, University Departments of General Practice, other related organizations and specific research centres.

I chose the Wessex Research Network (WreN) because this is one of the oldest of the networks and is directed by the Chairman of the Federation of Research Networks, Helen Smith. The Trent Focus is one of the leading networks in the UK and has made a significant contribution of building research capacity among primary health care researchers. Weest London Research Network (WeLReN), North Central Thames Primary Care Research Network (NoCTeN), East London and Essex Network of Researchers (ELENoR), South Thames Research Network (StaRNet) and the Battersea Research Group (BRG) are all London-based networks and use different approaches to developing research capacity in primary care. The Hertfordshire

Primary Care Research Network (HertNet) is based in Hertfordshire and invited me to visit. The Warwick-West Midlands Research Network (WARMNET) is a collaboration of academic departments and general practitioners with part-time university appointments. I was also able to visit the Lothian Primary Care Research Network, Highlands and Islands Primary Care Research Network (HighReN, a rural network), Forth Valley Primary Care Research Network (ForthNet) and West of Scotland Research Network (WestNet) and contacted Tayside Primary Care Research Network (TayReN). On my return to London I was able to discuss StarNet with a GP who was attending the WONCA Europe 2002 Conference.

The National Primary Care Research and Development Centre (NPCRDC) at the University of Manchester and the Scottish School of Primary Care (SSPC) at the University of Edinburgh were established from R&D funding made available as a result of the Mant report (1997) and have key roles in the development of research in primary health care. They are developing different approaches and functions within the health care systems of England and Scotland. The NPCRDC is a research centre that was established in 1995 with NHS R&D funding to conduct high quality policy related research in primary care in England. The centre aims to conduct research relating to primary care, disseminate findings to a wide range of audiences to inform primary care policy and support the development of primary care and primary care research capacity. While the centre offers postgraduate training for at a masters' and PhD level, it is not participating in capacity building activities at practice level. The SSPC has been established in Scotland under a different paradigm. It brings together primary care groups in Scotland to develop primary care research capacity building activities and to undertake multi-centre research in primary health care. Their experience and opinions were important in the development of this review.

On my return to London I organised to meet with the Royal College of General Practitioners (RCGP) Research Group. The RCGP has been involved in research since it was formed in 1952 and has established the RCGP Research Group to support research activities in primary care. While not undertaking research, this group aims to support and contribute to the development of primary care research in the UK through providing and lobbying for funding, and providing research training opportunities to GPs and other health professionals who work primarily in general practice. The RCGP have also established a system for research accreditation that is aiming to encourage practices in the UK to develop research infrastructure. RCGP Accreditors work with general practices to develop practice structures and procedures to support research in general practice.

The Medical Research Council General Practice Research Framework (MRC GPRF) was established to provide a network of GPs who are willing to host research activities. The framework has been a well-resourced organization. It was established in 1972 to enable a study of hypertension therapy in general practice. From this start the MRC GPRF has expanded into a network of more than 1,000 practices across Britain. There was a feeling of the haves and have-nots in relation to this framework as there was not mechanism for collaboration at a regional level between the framework and local research networks. Consequently there was limited local knowledge of the GPRF and suspicion about its motives and activities. Nationally, the MRC GPRF was a member of the Federation of Research Networks and was supportive of capacity building activities in principle.

I was also interested in visiting the National Asthma Campaign (Islington, London), the National Respiratory Training Centre (Warwick) and the Warwick Diabetes Care (University of Warwick). The National Asthma Campaign has been closely linked to the National Asthma Council in Australia, with whom I have worked for a number of years and I was interested in their support for asthma research. The NAC is a bit like a cross between our Asthma Foundations and National Asthma Council having responsibility for promotion of awareness of asthma, patient education, fund raising and allocation of significant annual funds for research. The National Respiratory Training Centre (Warwick) is a key training facility providing courses for people providing respiratory disease services principally in asthma, Chronic Obstructive Pulmonary Disease and smoking cessation in the UK. The NRTC is an important example of a 'bottom up' capacity building activity. A GP and a practice nurse who were interested in increasing the skills of primary health care practitioners to deliver asthma education commenced it. The centre is now a national training centre with links to Europe and the United States and is self-funding. A network of trainers provides education to health professionals in asthma, COPD and smoking cessation through a variety of courses up to an accredited master's program. Warwick Diabetes Care offers a certificate course in diabetes care, providing the theoretical and practical knowledge needed to provide effective and efficient services for people with diabetes and linking participants in this course to develop a research network for diabetes.

I am interested in the epidemiology of chronic disease management and quality of care in primary health care, with particular reference to general practice. I also have research interests in asthma, chronic respiratory disease, chronic pain, diabetes, mental health (anxiety and depression), and illicit drug use. My program was planned with these in mind, to provide opportunities to see what research activities were being undertaken at first hand. My visits to university departments enabled me to explore research activities in these areas. Highlights were time spent at the University Departments of General Practice and Primary Care at the Universities of Edinburgh, Aberdeen and Glasgow.

I was also privileged to attend the 2002 WONCA Europe Regional Meeting that was held in London from 9th to 13th June. This conference brought together general practitioners and other primary care health professionals from across Europe and around the world. The conference consisted of a mix of plenary sessions that addressed issues relating to the development and delivery of general practice care, workshops and presented papers related to research and other issues of relevance to general practice.

8.2 Presentation of the report

This report presents a discussion of the issues raised in relation to PCRNs. It does not attempt to describe each of the places that I visited. Individual summaries of each visit are available.

As well as variation in region covered, membership, and source and level of funding, PCRNs vary in their disciplinary mix and in their functions. I have included four case summaries that describe the four models of PCRN that I visited. These broadly reflect

my impressions of the different networks that I was able to visit. I refer to them to reflect my discussion of issues relating to networks.

9 Results and discussion

9.1 History of primary health care research networks

Prior to the 1990s the only organizations other than universities that were specifically supporting research in primary care in the UK were the Royal College of General Practitioners (RCGP) and the Medical Research Council (MRC) General Practitioner Research Framework (GPRF). The RCGP was established in November 1952. Development of research activities commenced early although these focussed on clinical and operational research such as the use of sulphonamides for treatment of measles and the early national morbidity survey¹. Early research activities were developed centrally and data collection undertaken through general practice. By 1974, it became apparent that this approach was not sustainable, as this was a resource intensive approach and did not facilitate the skills development of practitioners who were able to generate and lead research. The RCGP changed its research policy and moved to develop its research support roles. Research support activities aimed to encourage general practitioners to develop interest in research and the skills needed to lead research activities, development of fellowship schemes, research courses and workbooks, limited project funding, and other encouragement. They provided research training and lobbied government and other funding bodies to provide research infrastructure and support. The RCGP has strong links to universities, the National Health Service (NHS) and other interested organizations. It continues to work to increase the profile and quality of research in general practice and primary health care.

The MRC GPRF was first established in 1973 to enable a clinical trial of treatment of hypertension in the general practice setting and its importance as an organization to provide access to general practice patients was recognised. It has developed into a significant national network of more than a thousand GP practices in 2002 (Case study 1). The GPRF undertakes studies, which require a coordinated framework of broadly representative general practices, provides training in research for clinicians and non-clinicians relevant to participation in its studies, and disseminates the results of its studies. The network has not become involved in research capacity building other than that required to ensure compliance with study protocols and it does not see its role as research capacity building for primary health care.

Research capacity building primary health care research networks (PCRNs) began to emerge in the UK in the early 1990s. These early networks were poorly funded and largely relied heavily on university support². Two reports were instrumental in identifying funding for primary care research. The Culyer report (1994) highlighted the lack of research cultures and activities in primary and community care compared to other sectors of the NHS³ and that there was little system support for research in this sector. He made a number of recommendations to encourage research and development (R&D) activities: R&D money should be brought together into a single fund; all health care sectors should have equal access to funds; and there should be a

compulsory levy of all Health Authority budgets to establish the fund. The NHS responded to these recommendations with the NHS Executive R&D Programme and R&D Support Funding for NHS providers⁴. The latter was important because it provided support costs for NHS research participant sites and providers, an initiative that encouraged the development of research activities within primary care.

The Mant report⁵ was a product of a working group commissioned by the NHS to undertake a strategic review of R&D in primary care: to review R&D activity and investment, to identify strategic priorities and to make recommendations for their achievement. Mant noted the major role of primary health care in providing health care (responsible for more than 90% of patient contacts with the NHS) and thus the need for research evidence that was applicable to this setting. The Mant report⁵ noted that there were few researchers engaged in this sector and recommended (Recommendation 17):

'R&D networking arrangements should be developed in each region to promote coordination of R&D activity and to provide expert support for local research. They must meet the needs of local network participants. They should support primary care pharmacists, dentists, and optometrists as well as clinicians working from primary care teams.'

In additions to recommendations to increase funding for R&D in primary health care, this report recommended:

'In developing the primary care R&D agenda, full use should be made of regional primary care networks and of the process of developing evidence based clinical guidelines.'

The NHS, as a result of the Culyer and Mant Reports in 1994 and 1997, acknowledged the existence of PCRNs and ensured a commitment to their further development throughout the UK⁶. The subsequent introduction of 'Culyer' funding enabled many pre-existing networks to be formalised and the rapid expansion of networks as research active groups within universities, the NHS and other groups with an interest in primary care research capacity have successfully developed proposals for regional activities⁷. There are now more than 40 networks throughout the UK.

The establishment of the Federation of Primary Care Research Networks was another recommendation of the Mant report (recommendation 18):

'Regional research network coordinators should meet regularly to form a national group to coordinate collaborative primary care R&D activity taking place in more than one region.'

It was launched in May 1998 following a meeting in 1997 to plan the Federation of Primary Care Research Networks^{5,7}. The Federation is involved in facilitating communication between networks, sharing strategies and resources for success, representing networks to outside bodies, facilitating cross regional activities and coordinating PCRNs responses to national developments as well as nurturing and developing new networks and supporting existing ones.

Under the Culyer framework it was the intention to review the R&D strategies and the first major review was published in October 1999⁶. The first major review of the Culyer funding initiatives was the 'Clarke' review. The government responded to this report with the Research and Development for a First Class Service: Funding R&D in the new NHS' this report replaces the Culyer report and it aims to align the management and development of R&D with the 'new NHS'. The major thrust of this document is to greater external regulation of research and development activities that will be required to be more closely linked to policy development and more closely controlled by the central government. Some of their concerns include research and clinical governance, health inequalities, national standards, consumer involvement and greater collaboration between different stakeholder groups. These changes are contributing to a degree of uncertainty within PCRNs.

9.2 Scope of primary health care

There has been recognition in the UK and elsewhere that most health care is delivered in the primary health care setting. This has resulted in discussion of a primary health care lead National Health Service and the organization of service delivery around Primary Care Groups (PCGs) and now reorganisation to Primary Care Trusts (PCTs). Primary Care Trusts are being developed to lead a population approach to the delivery of health care through developing on primary and community health services and commissioning of secondary health services⁸. This approach, it is believed would make a significant contribution to the health of the population of the region. The PCTs are developing as two strands with general practice including GPs, practice nurses and other practice staff at the forefront of primary health care, and other services such as therapies, and children's, family and dental services organised into community health services that are taking over from the Community Health Trusts. However there are often opportunities for these to be co-located such as in Parkside Health where a multi-service facility is being developed.

Against this background there is a need for a discussion about what is meant by primary health care. In both Australia and the UK the guiding philosophy is that primary health care is a multi-disciplinary activity that includes a range of health professionals who work in the community to provide patients care. However primary health care tends to be led by general practitioners and most discussion of primary health care drifts back to general practice and the relationship between general practitioners and other primary health care providers is not well balanced.

In general practice in the UK, the primary health care team comprises GPs, practice nurses and practice managers. The inclusion of other primary health care professions within this group depends on the structure of the practice and the professional mix varied widely. Beyond general practice there are also dentists, pharmacists, and optometrists who are regarded as primary health care providers and are included as members of research networks. Other groups that might also be included are less often listed; these include health visitors (nurses who work in the community), psychologists, social workers and other groups such as physiotherapists, speech pathologists and podiatrists.

9.3 Research capacity models

There is considerable discussion about what research capacity building in primary health care means and what the primary aims of research capacity building programs are likely to be. This discussion is central to the development of network programs and expectations of what they might achieve. Research capacity building can be interpreted as two different approaches. The first is the development of structures to support expert researchers to lead research and provide access to primary health care patients with the view to increased success in achieving competitive research grant funding or more peer reviewed publications. The second approach is to increase the capacity of primary health care practitioners who are primarily involved with providing a clinical service to participate in and support external research. These approaches are very different; the first will achieve ‘academic’ markers of success while the second will be more successful in achieving engagement of practitioners but with fewer ‘academic’ measures of success.

These different approaches to research capacity building have helped to develop differing terms are used to describe different primary care research network models of which the most relevant are: ‘top down’, ‘bottom up’ and ‘system wide’.

9.3.1 ‘Top down’ models

The ‘top down’ model comprises a central ‘expert’ research team that assumes responsibility for the development and management of research projects and programs and recruits interested practitioners from the field to enrol study subjects and collect data. This model will devote minimal resources to increasing the research skills of practitioners. The advantage of this model is the ability to generate high quality research that is able to successfully compete for research funding and for peer review publication within a short time frame. This is not a good model to encourage the development and nurturing of ‘novice’ researchers and it will not enable a change in research culture and the development of research aware practitioners.

The MRC GPRF is a good example of a ‘top down’ research model network (Box 1). The framework was established to identify a pool of practitioners who are prepared to support high quality data collection and patient recruitment activities in their practices. Participating practitioners are provided with training that is relevant to data collection but practitioners rarely become involved in the development of GPRF research activities. This is a successful model that has enabled conduct of high quality trails often funded by the MRC and extensive quality peer reviewed publications. It is not intended to encourage independent research although many practitioners who were members if the GPRF were also engaged in research in other areas. Notwithstanding this, the framework has achieved a high level of participation with over 1,000 members who participate in at least one study per year.

Box 1: Case study of a ‘top-down’ model of primary health care research network (MRC GPRF).

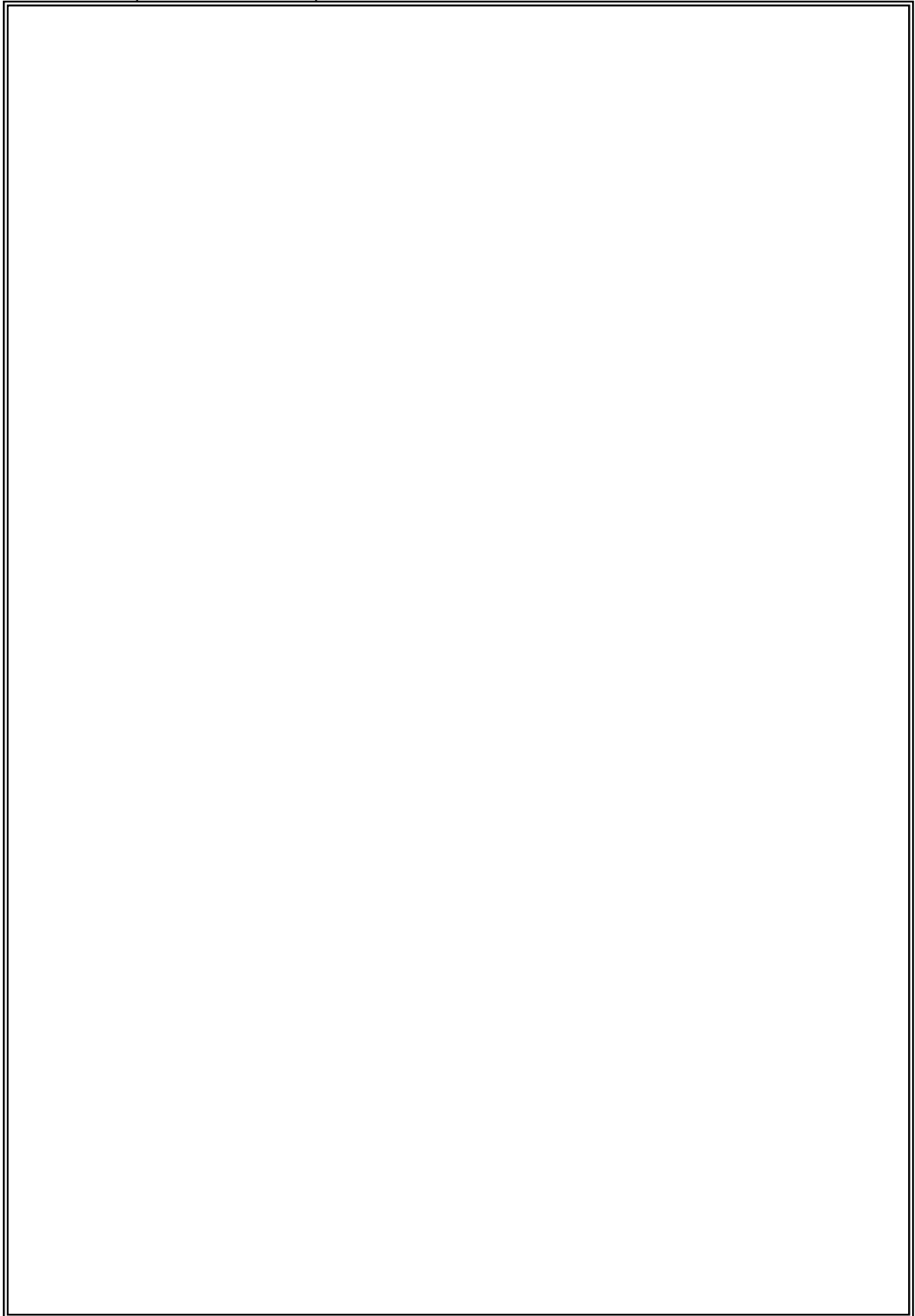
1. *History* – This network was established in its current form in 1993 to provide access to general practice patients for research purposes
2. *Aims* - to conduct high quality epidemiological, primary care and health services research in general practice
3. *Membership* - about 1,100 practices, with about 800 participating in at least one study per year
4. *Structure and constituency* – A centrally managed network with 14 regional nurses who liaise with participating practices.
5. *Partnerships* – Universities and Specialist Research Centres
6. *Resources and sustainability*– MRC infrastructure funding plus individual project funding
7. *Developing research activities* – Research activities are developed centrally; practices are invited to participate, but do not contribute to project development
8. *Building a research culture and developing research skills* – Training is only directed at data collection for specific projects; no training in research skills provided; no attempt to influence research culture in general practice
9. *Evaluation* – Audit of studies that have been successfully completed.
10. *Threats and opportunities* – Dependant on success with research grant funding and continued support of MRC. Expertise of management allows for faster completion of research projects.

9.3.2 ‘Bottom up’ models

‘Bottom up’ models of PCRNs are primarily concerned with providing the resources, infrastructure, support and encouragement to primary health care practitioners to enable them to develop research skills to generate and undertake their own research or to use research results to reflect on and inform their own practice. This model depends on early engagement of primary health care practitioners through identification of their research interests, opportunities to participate, and removal of barriers to increasing research activities such as access to the medical literature.

There are both advantages and disadvantages of the model. The major advantage is the development of research aware practitioners in the field and the identification and nurturing of ‘research leaders’. These practitioners have the skills and training needed to develop research and to influence the research culture in which they work to encourage research. However, there are a number of disadvantages. Firstly, achievement of a change in culture among grass roots practitioners is a slow process, it will require resource commitment (funding, mentoring and training) over a long period of time, and may not achieve ‘traditional’ academic outcomes in the usual short term funding cycle. Research activities may reflect the interests of practitioners rather than those of other stakeholders. In particular practitioners who are new to research will be unable to compete successfully for research funds and peer review publication within a short time frame. Providing the necessary mentoring, training and support to bring about this culture change will require significant input from research ‘experts’, particularly those based in academic departments, who may become

Box 2: Case study of a 'bottom up' model of primary health care research network (The Trent Focus)



disillusioned by the slow rate of change and their inability to focus on their own research interests.

The Trent Focus (Box 2) is an example of this model of network. It has worked extensively with primary health care practitioners to influence their attitude to research, increase their understanding of the role of research and to increase their capacity to develop and lead research. The network commenced its activities with a detailed needs assessment exercise to identify the research skills and needs of practitioners. Core activities of the Trent Focus have been to identify the training and support needs of practitioners, to facilitate increased research skills among practitioners and to nurture new researchers through supervision, mentoring, and project support. The Trent Focus has had to address the 'burn out' among staff in recent times by allotting resources to their network staff to lead and develop some research interests and activities and to allow them to collaborate with other organizations.

9.3.3 'Whole system' approach

I identified few truly 'bottom up' or 'top down' models. For the majority of networks, notably the larger ones they have moved to include elements of both of these models to address issues that have arisen; the 'top down' ones needing to strengthen their training and support activities to increase their primary health care practitioner base and the 'bottom up' needing to allow their core network staff to maintain and develop their own research skills and experience by generating and leading research.

The third model, a 'whole system approach' was a multi-level model that took an organisational approach to lead research culture change. This model has elements of both the 'bottom up' and the 'top down' models. It is about approaching the issue through different programs of work simultaneously. Thus primary health care professionals are able to become involved in research at a level that is appropriate to their research training, commitment and experience⁹, the network can host a variety of research, and finally, the network is able to develop a credible research profile.

The West London Research Network (WeLReN) is a good example of a network that has used this approach to capacity building (Box 3). Network activities are built on an annual 'cycle of research activity'. Participants attending the annual research conference agree upon a research theme. Usually one theme of topic is agreed for each health region represented within WeLReN. A multidisciplinary team is formed to work on a project that addresses the agreed themes. Participation in this project and its related training is the first step for a practitioner who is new to research. Primary care practitioners who join this activity do so for one year, during which they attend research training program with sections planned to coincide with the progress of their project, and they participate in all stages of the development and implementation of their project. Graduates of this process are encouraged to go on to develop their own research ideas and to continue to participate in network activities. The network also hosts a range of 'expert'-led projects for more experienced researchers and 'partner'-projects that use the facilities of the network to enable access to primary health care practitioners and their practices who 'host' the research.

9.3.4 Other models

Other network models were less concerned with developing research capacity in primary health care and more concerned with developing groups for peer support and collaboration around high quality research activities (Box 4).

Box 3: A case study of a ‘whole system’ model of primary health care research network (WeLReN).

1. *History* - Began a pilot stage in Autumn 1997 and funded from April 1988
2. *Aims and objectives* -
 - To produce high quality research that is relevant to primary care
 - To build primary care research capacity
 - To change the primary care culture towards reflective inquiring practice
3. *Membership* - 1037 in four categories:
 - Organisational– general practice or other PHC organisation
 - Contact members – representatives of organisations (3 each)
 - Associate membership – any primary care worker
 - Key ally members – those not in other categories
4. *Structure and constituency*- uses a whole system approach to engage range of practitioners
5. *Partnerships* - partnership between Parkside Health PCT and the Department of Primary Health Care and General Practice, Imperial College, London
6. *Resources and sustainability* – strong relationships with the PCT.
7. *Developing research activities* – based on a cycle of research initiated at an annual conference. Ideas are developed within a theme group and developed into projects.
8. *Building a research culture and developing research skills* – number of activities such as research clubs, research peer groups, interactive bulletins and annual conference
9. *Evaluation* - annual report of key performance indicators such as external funding, publication, multidisciplinary training and consumer and other agency involvement.

9.4 Aims and objectives of PCRNs

PCRNs in the UK were primarily developed to increase primary health care practitioners’ awareness of research and its potential to inform their practice activities, to increase their capacity to participate in and undertake research and to influence the culture of primary health care practitioners to support research. They aimed to do this by bringing together experienced researchers to support novice researchers and to encourage development of research activities. These aims were reflected in the stated aims of networks.

The range of aims can be summarised as follows:

1. Undertake high quality studies that require a coordinated framework of general practices
2. Provide infrastructure to encourage research in primary health care
3. Increase the number of health professionals who are developing and leading research
4. Strengthen primary health care research with particular reference to themes relevant to contemporary general practice
5. Increase the number of health professionals who are able to participate in research activities or host the research activities of others,
6. Increase the number of health professionals who have received research training and promoting multi-professional research and development
7. Encourage evidence based primary health care by supporting multidisciplinary research and development
8. Create more reflective practitioners who are able to appraise study results and incorporate these into their practice
9. Encourage research awareness and skills among primary health care practitioners

These aims would have relative importance dependant on the model of the network. Thus a 'top down' model would be more interested in achieving high quality research while a 'bottom up' would be primarily interested in influencing the culture of primary health care and addressing the training needs of practitioners. The aims translate into a set of core activities for networks that are concerned with training to enhance research skills, support, supervision and mentoring, dissemination of information about research opportunities, development of infrastructure to support research activities and other research related activities.

One of the criticisms levelled at PCRNs in the past has been their failure to articulate a clear and agreed set of aims and objectives with the consequence that it was often difficult to identify clear outcomes. In addition to creating difficulties in evaluating the PCRNs this has created unreal expectations of networks, particularly from network funders. These issues are being addressed as the PCRNs become more established and sophisticated in their activities.

Box 5: A case study of an academic model of primary health care research network (WARMNET).

1. *History* – established with Culyer and NHS R&D funding
2. *Aims and objectives*
 - Contribute to improving the evidence –base and quality of NHS primary care services.
 - Provide research leadership and co-ordination to increase the output of relevant research.
3. *Membership* - small number of general practices each with a lead GP who has a part-time academic appointment
4. *Structure and constituency* – This network is building on existing resources to develop collaborative links between universities, health authorities, community trusts, and professional groups to recruit experienced researchers whose expertise dovetails with the existing expertise of the network and whose research aspirations align with those of the network.
5. *Partnerships* – six university departments (Universities of Warwick Coventry, Aston, and City and University College, Worcester), Primary Care Trusts, and GPs
6. *Resources and sustainability* – funded by NHS West Midlands R&D dependant on NHS and Culyer funding
7. *Developing research activities* – GP members and academics
8. *Building a research culture and developing research skills* – GP members are already research aware and active participants in research activities. Not working with novice researchers.
9. *Evaluation* – peer reviewed publication and success with research grant applications

9.5 Membership

The size of PCRNs varied from the smallest comprising no more than six general practitioners to networks with mailing list memberships of many hundreds. The most important factors that determined membership size were definition and expectations of membership.

Smaller networks were very tightly constructed around a small core group of ‘research active’ members who might be individuals or organizations such as practices. Members were actively involved in the development and conduct of network activities. Membership depended on this level of involvement and may have attracted remuneration in the form of a part time academic appointment, practice infrastructure’ or funding for time spent on network activities. For some networks e.g. StarNet, the ‘members’ were GP practices where all of the members of the practice needed to sign on and nominate representatives from within their practice who would lead research and development activities. Other groups or individuals might achieve associate membership. There were other examples of small networks that included an eclectic group of research active practitioners e.g. BRG or network of academic members e.g. WARMNET.

Networks that reported larger memberships were less tightly knit with membership lists determined in ways other than being a ‘research leader’. Often membership of larger PCRNs was a function of contact with the networks secretariat through an expression of interest in a project or participation in a training activity e.g. the Trent Focus. The PCRN policy was not to worry about membership but just to work with any interested primary health care practitioners. However there were also groups within such networks that formed around specific interests e.g. NoCTeN with its special interest groups of WReN with its research practices.

Network membership also reflected the expectation of members, particularly their research experience and ability to actively engage in the research process. Thus small networks comprised practitioners with prior experience and training in research while larger ones also included practitioners who were seeking opportunities to participate in research activities including training, but where they did not require previous expertise. The former expected members to lead and develop research while the latter were the ‘bottom up ‘ capacity building networks that invested in the research training needs of practitioners.

Very few networks included only one primary health care discipline. These were the very small networks or networks developed for specific purposes such as EyeNET, the Network for Primary Care Eye practitioners, which targeted practitioners interested in eyes and the Grampian Pharmacy Network Group, a network of research interested pharmacists. Most networks provided opportunities for multidisciplinary membership from primary health care in its broadest sense and included pharmacists, dentists, and optometrists and employees of primary care trusts in addition to general practitioners and their practice nurses and managers.

There were examples of different membership categories. For example the ‘member’ might be the general practice and an associate or contact member might be an individual, not necessarily associated with a member practice e.g. WeLReN.

9.6 Partnerships

Few networks were independent of significant partners. The most common partners were universities and the National Health Service. These patterns had developed historically and had been encouraged by the funding mechanisms for application and receipt of ‘Culyer’ funding. Usually, but not always, the university department was one of general practice and based in a Faculty of Medicine. However there were examples of networks such as HertNet that were based in nursing faculties or others such as WARMNET and HighReN that were based in a centre for Primary Care Research or Institute for Health Research. The need to maintain close partnerships to a regional health authority such as a Primary Care Group (PCG) or Trust (PCT) or the regional R&D Directorate of the NHS was facilitated through funding mechanisms that required funding to be maintained by the Trust rather than a university department.

PCRNs had strong ties to University Department of General Practice, or Primary Care or Nursing and were most frequently housed within a University Department where the arrangement was seen to be mutually beneficial. Academic departments have been proactive in developing research networks and have the research expertise to provide

research leadership. Interdepartmental and interuniversity consortia were often formed to support a network proposal and were the primary initiators of the Networks. University Departments were prepared to commit significant resources to providing research mentoring, training and support to networks in return for stronger links to primary health care and access to practices to conduct their research activities. This has helped to increase the public profile of the academic departments and to attract practitioners who wish to participate in departmental activities such as research or under-graduate training. Networks members benefit from the close proximity to researchers and ready access to research expertise and mentoring.

Culyer funding was distributed through the NHS Executive R&D directorates, as well as through health authorities and NHS PCGs/PCTs. It was a condition of the funding agreement that a regional Community Trusts manage the funds. Thus these organizations have been integral to the development of the networks. Currently, there are changes underway due to the restructure within the health service, the move from PCGs to PCTs that will absorb PCGs and Community Trusts, and the development of research governance guidelines. Health Authorities are devolving responsibility for research to PCTs. PCRNs are renegotiating their relationships and funding agreements with the new organizations. This is creating some uncertainty for the PCRNs. The rapid broad structural changes within health care organization mean that many new PCTs depend on the PCRNs for research support, advice and assistance in meeting the research requirements that have been mandated in the new structures.

9.7 Structure and constituency.

All of the PCRNs investigated had broadly similar aims and objectives. However their management structure, mode of operation, and location (whether in a university, PCT or independent) differed. These reflected their history and development, location and in financial constraints. Networks are currently in a state of transition as they respond to the changing requirements of their major partners and funding requirements.

All networks had a management committee/board that determined the overall direction of the networks and met second or third monthly. The management committee comprised a chairman who was usually but not always a GP, and representatives of the consortium such as university departments, the NHS Executive and regional health authority, and network members. The executive staff, comprising a director or coordinator and research and administrative staff was responsible for the day-to-day activities of the networks. Project staff also formed a part of the team.

Larger networks, particularly those who were distributing research funds or developing educational activities also included one or more sub-group, such as a research committee with responsibility for determining distribution of funding or an education committee with a lead role in identifying and responding to education and training needs. For example NoCTeN had a research peer review group and research training and network development group.

9.8 Resources and sustainability

Initial 'Culyer' funding for PCRNs came through the R&D Directorates of the National Health Service as a levy on the budgets of all NHS contracted providers. It was usually provided for about three years with initial funding contracts finishing in 2000. These have variously been renewed for periods of one to three years and there is uncertainty about ongoing support for networks as research funding becomes tighter, new structures emerge to deliver primary health care services, and PCRNs are expected to become more able to compete for funding.

As has already been mentioned the organization of primary health care services in the UK is in a state of change as PCGs are discontinued and new PCTs are established. PCTs will have much greater autonomy from the NHS executive but greater responsibility for their activities and requirements to implement national policy. There is an expectation that PCTs will take a more active role in research and will place a greater priority on research and development agenda particularly in the implementation of research results and in new strict requirements for research governance. PCRNs are negotiating with the new PCTs to identify ways to work together to develop primary health care research. Not surprisingly at present research is not a high priority for PCTs as they struggle to establish other aspects of their activities. This is providing opportunities for PCRNs in their developing relationships with the new Trusts.

All PCRNs were moving to develop strong links to universities and these links have implications for the development of research activities and are beneficial for both universities and the PCRN. In return for some infrastructure support and academic leadership the presence of PCRNs is useful in identifying practices that will host research.

9.8.1 Reimbursement of practice

A controversial issue is that of reimbursement of practitioners and practices for participation in research. There has been no single approach to this issue. All PCRNs were considering the issue, as practices may not be prepared to continue to carry the cost of research participation. There are potential advantages for research in ensuring that participation is resource neutral. Importantly it may make participation more attractive. This would then increase the pool of practices that support research and thus increase the capacity of primary health care to support research through increased participation of GPs who gained research training and experience. This will also prevent unreal expectations of the level of participation and the number of projects that practices are able to support. Most importantly it will clearly articulate to practitioners not only that research is important but also that their participation is valued.

PCRNs have adopted a variety of approaches, which were largely dependent on their own financial security. Designated research practices (DRPs) are one approach; a limited number of practices receive infrastructure and salary support to undertake research. It was expected that these practices would use their connections to draw other practices into the networks but this has not happened. The disadvantage of this approach was that funding was provided to a few practices and was not available to

all practices that might be interested. Other networks have small grants schemes that fund practices to host research while others link network membership to participation in network activities.

Varying philosophies to this practice funding issue were expressed. One view was that networks should regard participation in research as a key component of their practice and that this should not be reliant on funding. The alternate view was that participation would incur practice costs for space occupied by the project and time for practitioners and other staff who were not engaged in their core business e.g. patient care. These costs should be resource neutral.

Of course there were a number of precedents that support the idea of reimbursement. For example, practices participating in the MRC GPRF and DRPs were funded for their research costs. Some of the better resources networks were able to negotiate funding of practice research costs. Others made minimum participation in network research a condition of membership and in this way were able to ensure an ongoing core group of practices with some research knowledge and skill to avoid the need to start from scratch for each new project. There were non-monetary ways of reimbursing practices such as providing practice support for research and clinical issues through academic departments or providing access to other resources such as university libraries.

9.9 Building a research culture and developing research skills

Networks undertook a variety of training and capacity building activities. There was considerable variation in approach to this. Many networks were ambivalent about how much time to spend on research training and how much to act as a training broker and to use others to provide training and simply advertise this.

For example, the Trent Focus did not intend doing any training. They started out by identifying all appropriate sources of training and encouraging members to access these. The Focus would provide funding to members to attend training activities, conferences and other similar activities. However, their experience was that training courses were often not appropriate to the specific needs of network members and this has led them into their involvement with research training. Other networks were being very specific about embedding research training into practice. For example, WeLReN's research training activities were offered in parallel with participation in a theme group research project. Networks have also invested significant resources into providing support, mentoring and supervision to new primary health care researchers through a variety of initiatives. Some approaches to training and capacity building are given below:

9.9.1 Courses

An important remit of networks has been to provide research training and training materials. PCRN has both undertaken training activities and have brokered research activities for other groups. In this way the network is able to offer members a broad range of training activities. PCRN developed courses include a range of activities relevant to research. Some examples of training courses include:

- Research governance,
- Project management

- Methodology – quantitative and qualitative research methods
- Focus groups
- Presentation skills eg, high impact low cost posters
- Writing a scientific paper.

9.9.2 Training manuals

Many of the courses have resulted in the production of training manuals to support course activities or can be used as stand alone material.

9.9.3 Fellowships

PCRNs provide a variety of fellowships to enable practitioners to attend courses, training, or conferences that are relevant to their research. Practitioners need to apply for these, to set out what they intend to do, cost, and how attendance will assist them to develop their research activities.

9.9.4 Conferences

As well as the annual Federation of Research Networks Annual Conference, most PCRNs hosted an annual conference, usually lasting one or two days. These were an opportunity to showcase network activities and to bring in a keynote speakers to address issues of relevance to the network. One network, WeLReN used their annual conference as a means of developing their ‘cycle of activity’. A significant proportion of the one-day meeting is spent developing a research idea, which will become the basis of their research training for the network during the following year.

9.9.5 Research interest groups

Research interest groups form around an issue of interest to network members. A disease state such as coronary heart disease or a professional group such as pharmacists meet at regular intervals to discuss ideas. Their success often depends on interest in the topic or on the opportunity for the group to meet in a supportive environment; and they often have a limited time frame.

9.9.6 Mentoring

Mentoring is provided to network members by network staff and by significant others who have the required expertise. Mentoring aims to provide research advice and support to new researchers.

9.9.7 Research support

Other forms of research support were provided as needed and included supervision and guidance to develop research ideas. A common form was a research interest group with a core group of practitioners who met at regular intervals to discuss issues and to develop research ideas. These were sometimes mixed interest groups and at others formed around a specific theme. There were also various forms of email discussion list and web-based chat sites.

9.10 Developing research activities

The development of research activities and research training took different forms and the emphasis varied from network to network.

There were some research networks that were built upon designated research practices (DRPs) and similar formal arrangements with a small number of practices and these were the basis of the network membership. Individuals could apply for associate membership. The idea was that the research practice would act as a hub and draw in practices to participate in research. These practices were expected to provide research leadership through active participation in and leadership of research.

Other networks had a more general membership and developed a structured system of research grants that enabled practitioners to apply for funding in a task orientated way and at a level at which they were comfortable. There were other networks that were able to fund protected time for practitioners to undertake research or to provide funding to researchers to reimburse practitioners who hosted their research.

9.10.1 Designated Research Practices

The RCGP appointed the first designated research practices in October 1994. Research practices were awarded £4,500 PA for three years. The college has continued to appoint research practices and has encouraged the NHS R&D Directorates to develop the concept on a regional basis. The idea of these has also been taken up by some of the better funded research networks such as WReN and the Trent Focus that are also funding DRPs and was the basis of the development of some other networks such as StarNet. The concept is developed with an initial grant (of around £5,000) to provide research infrastructure such as dedicated space for research and an annual grant of up to £20,000 to cover locum replacement of staff who were involved in research. The practice would also receive general research support from the network. Two models of DRPs seem to have emerged. The first is where individual practitioners accept protected time but continue to work in isolation on a topic of interest to themselves, and the second is where more members of the primary care team or practice become involved in research. The second is the preferred model, as this will encourage a degree of cohesion where all members of the practice feel that they are involved and have some shared ownership of the research.

The expectation of these practices was that they would develop and lead research activities, would draw in other practices to participate (hub and spoke model) and would generate research activity by successful application for research funding.

There has been variable success of DRPs¹⁰. The advantage of DRP practices identified in this way is the development of a core of practices with at least one GP enthusiastic about research and with research expertise and experience to support research activities. There are a number of disadvantages to the DRP idea. Firstly, these may be awarded competitively and be seen to favour some practices at the expense of others. Secondly, while DRP practices need to name a practitioner who will lead research and coordinate practice activities, there have been difficulties in developing a depth of research expertise within these practices as implementation of research depends on the research leader. As the 'lead' practitioners are often involved in leadership roles in other aspects of their profession, there have been difficulties in maintaining interest and commitment over time, especially in the event that the 'lead' practitioner leaves the practice. The idea that these practices would draw other practices into participation in research does not seem to have been realised.

9.10.2 Stepwise funding programs

Stepwise funding programs have been successfully developed and implemented by a number of networks (Table 1). The steps are organised so that new researchers can compete for funding for a specific task such as a literature review and progress to additional stages. Practitioners apply for these in writing and set out what they want to do and the expected outcomes of the activity. Supervision and mentoring is built in to the program. The are obvious advantages as funding is committed in small amounts across a range of projects, the researcher had clear goals and outcomes and there were opportunities to develop a project over time. The scheme has been well received within networks and has been successful in generating new activities among network members.

9.10.3 Research cycle programs

Research cycle programs aim to combine research training with participation in a project based on a 'learn by doing' model. One PCRN (WeLReN) used its annual conference to identify multidisciplinary interest groups who would work together to develop, implement and report on a project during the coming 12 months. Primary care practitioners who join this activity do so for one year, they attend research training program with sections planned to coincide with the progress of their project, and they participate in all stages of the development and implementation of their project.

9.10.4 Protected time

A number of networks provided some basic funding for practitioners to be able to employ a locum for a limited number of sessions a week to enable them to devote protected time for research activities.

9.10.5 Project funding

Various project-funding schemes were available through many networks. These were often structured in a stepwise way so that a practitioner could apply for small amount of funding to support research activities.

9.10.6 Access programs

Among PCRN member there were practitioners who were interested in research but who did not want to commit time and effort to developing research. However they were prepared to 'host' the research activities of others. Some networks conducted 'access' programs that encouraged investigators with external funding to use the resources of the PCRN to recruit practices to studies. This has assisted the PCRNs to keep track of research that is under way in their practices and to assess projects prior to inviting their membership to participate.

9.10.7 Network generated research activities

While many research networks were established to support rather than do research, this has been difficult to maintain due to the needs of research staff to maintain their own professional development. Providing the quality of support to enable practitioners who are novice researchers to successfully develop research is wearing. Some networks have begun to develop their own research activities and to participate in consortia with other groups as a way of encouraging staff to stay. This has also been a useful way of engaging practitioners in research, who might otherwise not participate.

Table 3: an example for a stepwise project-funding program provided by one network (NoCTeN)

Phase	Inputs	Outputs	Quality monitoring	Time frame	Resources	Resources mentor
1. New Researchers' Scheme (NRS)	<ul style="list-style-type: none"> Inexperienced researcher with idea or hunch Practitioner with own data 	<ul style="list-style-type: none"> Literature review Focused research question Conference presentation, paper or report 	<ul style="list-style-type: none"> Internal Mentor 	12 protected sessions over 3-6 months, typically	<ul style="list-style-type: none"> £1500 Course or workshop bursaries 	<ul style="list-style-type: none"> £375 for up to 3 sessions - equiv. Regional office
2. Green Shoots program (GS)	<ul style="list-style-type: none"> NRS graduate with focused research idea and basic literature review Other PC professional with similar background work done 	<ul style="list-style-type: none"> Basic protocol/plan for feasibility study Feasibility work done and revisions to protocol identified Article or report Draft of pilot study Conference paper Proposal for external funding 	<ul style="list-style-type: none"> Peer review Ethics committee Internal Mentor 	6 months to 1 year	<ul style="list-style-type: none"> £5,000 for protected time, research costs: direct and service Course, conference or workshop bursary 	<ul style="list-style-type: none"> £1,000 Mentor provides ongoing support to the trainee
3. Pilot Study	<ul style="list-style-type: none"> Project submitted by GS graduate Project submitted by any PC researcher in the region 	<ul style="list-style-type: none"> Completed own-account pilot study Published article Conference papers Proposal for external funding 	<ul style="list-style-type: none"> Peer review External referees Ethics committee Progress reports Supervisor 	12 to 18 months	<ul style="list-style-type: none"> Up to £10,000 as direct and service costs of a research project 	<ul style="list-style-type: none"> Supervision costs as a part of research Authorship Role on research grant
4. External Funding (fellowship or project grant)	<ul style="list-style-type: none"> Project submitted by a GS graduate or completed pilot Project submitted by any PC researcher in the region 	<ul style="list-style-type: none"> Externally funded research project Articles in national and international journals Conference papers Reports to funding bodies Other dissemination 	<ul style="list-style-type: none"> External funding body Ethics committee Peer review Supervisor. 	As defined by the project	<ul style="list-style-type: none"> Direct costs funded by external funding body Service costs supported by network 	<ul style="list-style-type: none"> Authorship Role on research grant

9.11 Evaluation of PCRNs

The Mant report⁵ identified the need for evaluation of networks. Mant highlighted the lack of clarity of networks about what comprised success and what were the features of that success. Of 22 networks reviewed as part of the Mant report, only eight were able to offer possible performance measures; the most common being quantitative measures such as attendance at meetings or number of projects that were supported. Mant recommended the setting of clear local and regional objectives to support evaluation and that these objectives be allowed to develop and change over time as networks developed. Evans¹¹ recommended four evaluative processes: performance management, external and internal evaluation, and organisational peer review. There were some examples of these. Most commonly, evaluation was presented in the form of internal review as an annual report. The annual reports of most networks were widely circulated and available.

An evaluation of London based PCRNs was also sighted⁶. This report used both qualitative and quantitative methods to assess the outcome and impact of research investment in PCRNs. The evaluation adopted a contextualised comparative case study approach that allowed the evaluators to suggest broad approaches based on organisational theory that recognises the capability of organizations to achieve similar goals through different approaches. This evaluation made a number of comments about the timeframe for the evaluation, commenting that these are emergent and dynamic organizations. They were dependant on their leadership and maintaining the enthusiasm of core supporters was a key element of their development. The report concluded that the networks have had to demonstrate credibility, create a sound research infrastructure and manage both internal and external relationships in a very short space of time.

There was much discussion of issues relating to evaluation of networks. The major issues were concerned with what were the long term expectations of networks, were these realistic, and were similar measures to be applied to all networks. This was a particular factor for those networks building capacity from the bottom up as they are less able to generate traditional measures of success. The following discussion will address some of the issues that were raised in relation to evaluation of PCRNs.

What activities occurred as a result of the network activities? There was already some PHC research occurring, mostly commonly in University-based Academic Departments of General Practice and/or Primary Care, but there are also examples of research active GPs who were already engaged in doing research but who were not involved with an academic department. These GPs often went on to become leaders in the new networks. Often this work was under funded and poorly recognised. The commencement of networks has been a useful incentive to developing activity.

How were networks informed by other emerging activities? PHCRNs were one of a number of strategies designed to address the weak R&D base of primary health care. There were other activities. These included the development of academic departments to provide support, the development of centres for primary care research and training such as the National Centre at Manchester and the SSPC, and the development of R&D strategies within PCGs and PCTs. In addition a number of related organizations

and groups such as PRIMIS have formed to support specific aspects of the research process such as data collection and specific aspect of research. These have all played their part in the development of primary care research activity, research and infrastructure and were enabled because of the availability of new funding for primary care research. It may not be possible to identify the impact of individual activities.

How does one define appropriate quantitative measures, process, impact and outcomes? A number of measures are proposed including:

- ❑ Peer reviewed papers
- ❑ Grants and project funds
- ❑ Attendance at meetings
- ❑ Uptake of research results to inform clinical practice
- ❑ Other measures

While some of these measures are easy to assess, consideration of their appropriateness as outcome measures for health professionals who are new to research is needed. Peer reviewed publication and success in competitive funding will not occur without considerable training of research naïve professionals or will require significant input from experienced researchers. Identification of new researchers in publications of experienced colleagues may be a more appropriate measure in the short term. Likewise attendance of health professionals at meetings, while indicating interest, may not translate into research participation.

Discussion is required to identify measures that identify uptake of new research findings into clinical practice for health professionals who are solely employed in primary care. Other than for a few research active practitioners, it may be inappropriate to expect more from these professionals than that they become more reflective practitioners.

What was the input from researchers who were already engaged in research? Traditional research outputs such as peer reviewed publication and success in competitive grant schemes may not be attainable without significant input from experienced researchers, at least not in the short term. There are issues about the degree of expert support that can be provided to new researchers.

What is a reasonable time frame for change? While attendance and participation of primary care researchers in network activities are easily quantifiable short-term measures and these are useful process measures, change in more rigorous outcomes such as traditional academic measures may require longer-term strategies than currently expected.

There is a need for debate about whether these measures are appropriate indicators of outcome of PCRNs. Measures that are sensitive to changes in practice particularly reflection on clinical activities and uptake on research findings may be more appropriate but difficult to measure.

9.12 Threats and opportunities

The 'Culyer' funding was initially for three years and PCRNs are needing to seek new funding opportunities. Changes in the organization of primary health care are occurring rapidly in the UK and there is an expectation that the new PCTs will take greater responsibility for R&D in primary care as the NHS Health Authorities devolve responsibility for implementation of policy to them. However it is not yet clear how this will occur because PCTs are struggling to establish themselves.

Development of PCTs is both a threat and an opportunity to the development and continued existence of PCRNs. The threat is current due to uncertainty as the system changes and the requirements for the new organizations to develop strong research governance guidelines and commitment to research activities. PCRNs need to negotiate working relationships with these new organizations. However, networks do have experience in research in primary care and in developing the research culture within primary care groups. They have largely developed partnerships with universities that have the research expertise to support and encourage research. Many PCRNs are working with PCTs to inform their research development and to assist with development of research governance guidelines.

A strict research governance framework is being implemented in the UK. The framework involves a set of procedures for research and consists of five key areas: ethics, science, information, health and safety, and intellectual property. Within each of these areas the framework includes systems for shared responsibility in gaining informed consent, and the need for clear practice systems for conducting and hosting research, maintenance of records, and documentation of relationships with research collaborators. These have the potential to restrict the range of research activities that can be undertaken and may pose additional administrative burdens for researchers and practices. As implementation of research governance is still in its early stages, there are many areas that are still unclear for individuals undertaking research.

In Scotland the Chief Scientist's office has funded the Scottish School of Primary Care. The SSPC has been established to link primary health care professionals in practice, in PCTs and academic departments and to provide an umbrella for the development of co-ordinated primary health care research in Scotland. It had begun well and there is a spirit of co-operation within groups in Scotland. There are currently eight PCRNs in Scotland. The SSPC will take on a coordinating role for these and may have some influence in their development. While this will offer some advantages through coordinated activities and increased potential to attract funding. There is also the potential for loss of autonomy through the potential to centralise activity. Currently there have been some negotiations to scope and identify suitable research projects that the networks could put in a combined bid for competitive funding. Coordination may also decrease the range of funded research and might prevent or discourage new and innovative research activities by new researchers who may want to pursue their own interests, at least in the short term. Currently the SSPC is working well with PCRNs and it remains to be seen how this relationship develops in the longer term.

10 Conclusions

Primary health care research networks have been a successful concept and have been widely taken up across the UK during the last decade as a way of developing the ability of primary health care to participate in, to lead and ultimately to adopt research and research findings to inform primary health care practice. There are now more than 40 PCRNs across the UK that are members of the umbrella organization the Federation of Primary Health Care Networks. While these networks have developed independently and vary widely in their structure from place to place and in their aims and objectives, there are many basic similarities between them. Their development in the long term will depend on a number of issues. These include the expectations of networks to move primary health care practitioners to a culture that is receptive and supportive of research, organisational commitment to the long term development of PCRNS and the acceptance that change in culture will require nurturing across a reasonable time frame.

Firstly, clearly defined aims will determine the development of PCRNs, their structure, activities, membership and ultimately evaluation. Debate needs to continue about what capacity building is desirable. Is it to increase the number of primary health care practitioners who are doing research or to develop research aware practitioners who are willing to host and use the research of others? These are very different goals and suggest different approaches. A network comprising 'expert' researchers will have different capacity and potential to a network comprising practitioners who were new to research. Network models have developed from different philosophies. Top down, bottom up and whole system approaches have been described. These philosophies reflect the potential of these different approaches to increasing research capacity in primary health care.

Secondly much has been written about the evaluation of PCRNs in the UK. There is a need for realistic evaluation in a realistic timeframe to a set of appropriate measures. Traditional measures of success such as peer reviewed publication and successful application for research funds are of limited appeal for novice researchers. There is a potential to write up the achievements of the PCRNs by including in their successes activities that would possibly have happened anyway. The mutual expectations of the network partners need to be articulated in terms of what can be achieved. Academics and administrators may need to modify their goals to allow for the differing priorities of practitioners. Practitioners will require reimbursement for time spent working on research activities if only 'in kind'. The need to provide funding opportunities for practitioners who undertake research should not be ruled out.

Finally, development of a research culture for primary health care will require long-term commitment and support. While it is to be expected that research networks will evolve over time it may be difficult to maintain the interest and commitment of practitioners if networks are not given the scope and funding to develop over the medium term.

There are three major issues for research networks. Firstly establishing and defining the role of networks and recognising their potential to develop long term partnerships between practitioners, administrators and academics to further knowledge of primary care issues is critical to their success. It is important to realise that the desired change

in culture will take time and may not occur within usual funding timeframes. Finally in setting evaluations criteria it is important that these are relevant to the network aims and that they are realistic about what can be achieved within short-term frameworks.

11 Attachment 1

Questions for research network directors, co-ordinators and others

1. Can you tell me about your network?

How long have you been going?

What range of health professionals belongs to your network?

What primary care groups are represented?

2. Structure and constituency.

Can you describe the structure of your network?

How successful have you been in engaging the range of health professionals who are or potentially could be involved with your network? I am interested in the level of engagement that is achievable? What commitment do you expect from members?

Our experience is that people are willing to be involved but keeping them involved over time is an issue. What are some of the things that have worked for you?

3. Resources and sustainability

What is the financial base of your network? What is your major source of funding?

Do you need to generate additional funding for day-to-day activities? For research?

What are the opportunities to find other sources of funding?

What things do you foresee will lead to changes in the network? How will you respond to these changes?

Many UK networks seem to have formed good partnerships with universities? What is their commitment to the networks? And what do they expect to gain from the networks?

4. Working with other groups.

Who are your potential partners? What other health professionals?

How have you gone about engaging them and maintaining their interest and developing their engagement?

Community groups / NGOs?

Industry and other commercial groups?

How have you gone about engaging them and maintaining their interest over time?.

5. Developing research activities

How have you gone about developing appropriate study designs for primary care?

What strategies / incentives do you use to ensure good quality research? Are these sustainable?

6. Building a research culture and developing research skills among primary care workers

What have you done to identify skill needs?

How have you gone about developing these skills?

I notice that there are a variety of courses to do this? How have you gone about co-ordinating activities? Combining activities?

7. Are there any comments that you would like to make about setting up research networks?

12 References

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